The National Weather Service

Mission

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the **protection of life and property and the enhancement of the national economy**. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

This mission is accomplished by providing warnings and forecasts of hazardous weather, including thunderstorms, flooding, hurricanes, tornadoes, winter weather, tsunamis, and climate events. The NWS is the sole United States **official** voice for issuing warnings during life-threatening weather situations.

Brief History

The National Weather Service was created as a branch of the Signal Service, later the Signal Corps of the Army, by a Joint Congressional Resolution in 1870. It provided "for taking meteorological observations at the military stations in the...United States, and for giving notice...of the approach and force of storms."

The benefits of the weather service were soon recognized by business industries, the general public, and farmers who demanded special forecasts and warnings applicable to their needs. This led to the creation of a new organization with a more scientific status. Congress transferred the weather service of the Army to the Department of Agriculture in 1891 and named it the U.S. Weather Bureau.

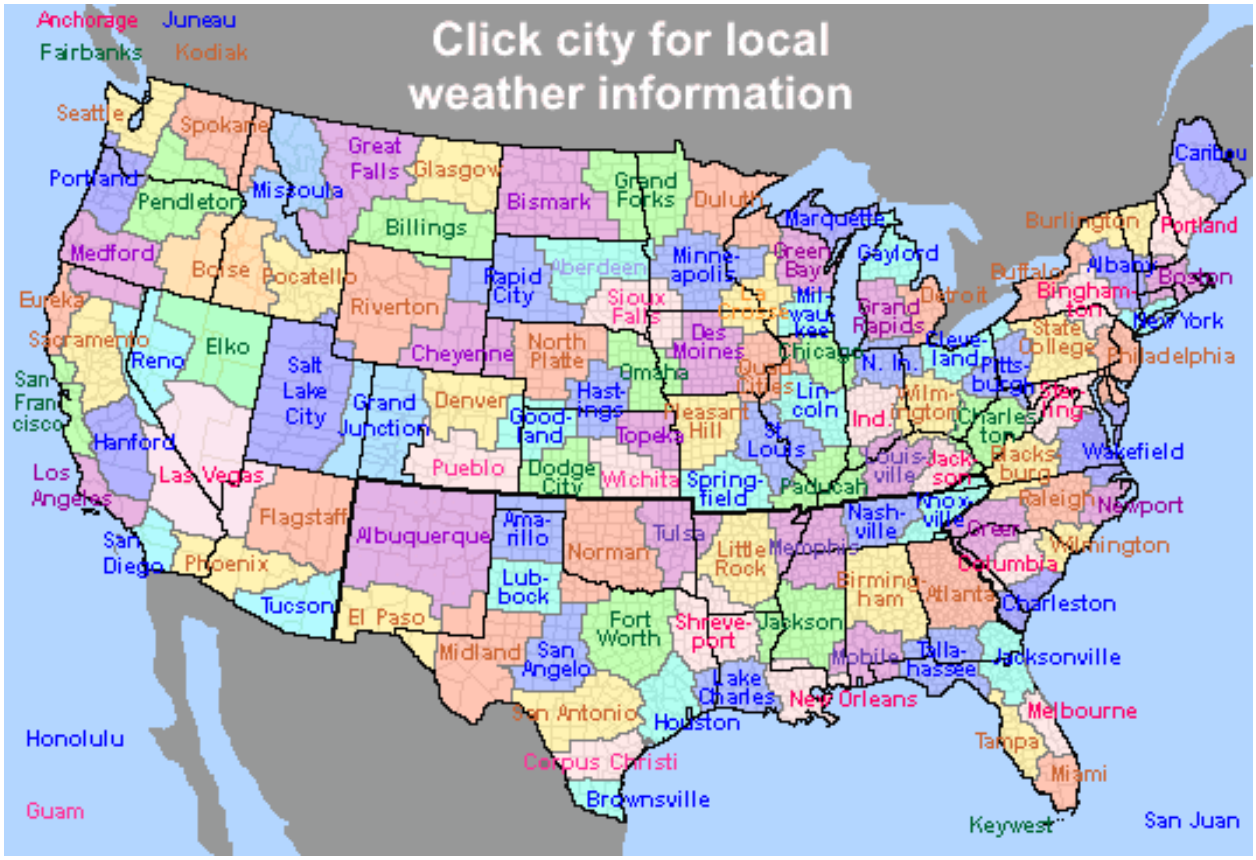
Before World War II, technology and communications improved slowly, but the war accelerated the need for aviation forecasts, and an increase in technology and participation by all sectors of society, including women. More employees, training and resources were poured into the war effort. Advances in satellite and radar technology soon followed. During the 1950s and 1960s organizational changes took place, including the distribution of local forecast offices across the country. In addition, numerous national centers were established to provide support for numerical weather prediction, research, climate archives, climate prediction, hydrology, aviation weather, marine weather, severe storms and hurricanes. In 1970 the Weather Bureau changed its name to the National Weather Service (NWS) and became part of the newly formed National Oceanic and Atmospheric Administration (NOAA).

Since then many more advances have taken place in computer technology, allowing for greater power in producing numerical model guidance used by meteorologists. Satellites have become more sophisticated in the weather features they can detect. In the 1990s a “Modernization and Restructuring” effort was realized. Doppler Weather Radars were installed nationwide,

representing a vast improvement over the old radars. New Advanced Weather Interactive Processing Systems (AWIPS) were installed nationwide in 1999. These workstations provide meteorological data, model guidance, satellite imagery and radar data with great flexibility in data manipulation and analysis. In 2000 a massive computer upgrade was made to allow greater speed and stability in generating numerical model guidance. In 2004 the NWS changed the forecast landscape with new digital forecasts designed to offer more spatial and temporal detail and to adapt to emerging digital technology. As the capacity of technology and understanding increases, forecasts become more accurate and extend further into the future. The NWS is the world leader for all operational weather forecasting and provides its basic infrastructure. For more history and stories, click on: **www.history.noaa.gov**.

NWS Organization

The National Weather Service is part of NOAA, the National Oceanic and Atmospheric Administration, which is part of the Department of Commerce in the U.S. Government. As noted in the mission statement, the entire weather database and infrastructure in this country (i.e. satellites, radars, weather monitoring stations, model guidance, etc.), is provided and maintained by the NWS. Private weather companies, consultants, media outlets, and research organizations all depend on this infrastructure.



It is easy to see why the NWS is part of the Department of Commerce. Numerous professions are directly impacted by the weather and countless decisions are made in response to weather forecasts. For example, anybody who works outdoors such as construction crews must monitor

the forecast and make cost-saving decisions. Industries of transportation, agriculture and recreation depend heavily on weather information. Indirectly, some industries like the stock market may be impacted as entire local economies can be affected by drought or damaging weather. In fact, it is hard to find a profession not in some way affected by the weather.

The NWS is comprised of many national centers which provide support and guidance to the nation's 123 forecast offices and 13 River Forecast Centers (RFCs). For web links to these centers, click on: **www.wrh.noaa.gov/wrh/nwspage.php**. These centers include:

- Aviation Weather Center (AWC)
- Climate Diagnostics Center (CDC)
- Climate Prediction Center (CPC)
- Environmental Modeling Center (EMC)
- Hydrometeorological Prediction Center (HPC)
- National Center for Environmental Prediction (NCEP)
- National Climatic Data Center (NCDC)
- National Hurricane Center (NHC)
- National Severe Storms Laboratory (NSSL)
- Ocean Prediction Center (OPC)
- Storm Prediction Center (SPC)

Several regional centers oversee forecast offices within their region of the country. The Western Region Headquarters directs the operations of forecast offices in the western states, including the San Diego office, from its office in Salt Lake City, Utah.